

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
23 June 2005 (23.06.2005)

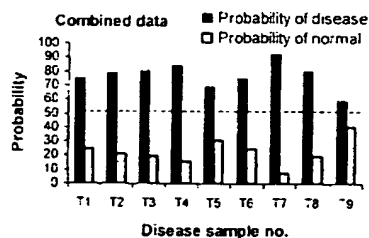
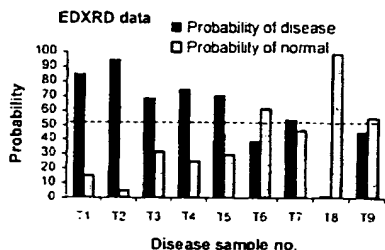
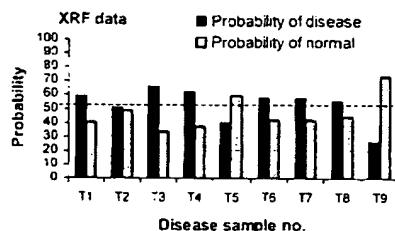
PCT

(10) International Publication Number  
**WO 2005/055827 A3**

- (51) International Patent Classification<sup>7</sup>: **A61B 6/00**
- (21) International Application Number:  
PCT/GB2004/005185
- (22) International Filing Date:  
13 December 2004 (13.12.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
0328870.1 12 December 2003 (12.12.2003) GB  
0409126.0 23 April 2004 (23.04.2004) GB  
0425254.0 16 November 2004 (16.11.2004) GB
- (71) Applicant (for all designated States except US): **TIS-SUOMICS LIMITED** [GB/GB]; Lakin Rose, Pioneer House, Vision Park, Histon, Cambridge CB4 9NL, (GB).
- (72) Inventors; and  
(75) Inventors/Applicants (for US only): **GAVED, Matthew** [GB/GB]; Tissuomics Limited, Lakin Rose, Pioneer House, Vision Park, Histon, Cambridge CB4 9NL (GB). **FARQUHARSON, Michael**; City University, London, Northampton Square, London EC1V 0HB (GB).
- (74) Agents: **CARLIN, Robert, George et al.**; Olswang, 90 High Holborn, London, WC1V 6XX (GB).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: USE OF COMPTON SCATTERING OR USE OF THE COMBINATION OF XRF (X-RAY FLUORESCENCE) AND EDXRD (ENERGY-DISPERSIVE X-RAY DIFFRACTION) IN CHARACTERIZING BODY TISSUE, FOR EXEMPLE BREAST TISSUE



(57) Abstract: The present invention describes a method for analysing body tissue, the method consisting of obtaining XRF - data representing a first measured tissue property of a body tissue sample and obtaining EDXRD - data representing a second, different tissue property of the tissue sample, and using the data in combination to provide an analysis of the tissue sample. A method is also described for characterising body tissues as normal or abnormal. The present invention also describes a method for analysing and/or characterising body tissue by obtaining Compton scatter data measured from a body tissue sample on which a penetrating radiation beam is incident and using the data to provide an analysis and/or characterisation of the tissue sample.

BEST AVAILABLE COPY

WO 2005/055827 A3



(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— with international search report

(88) Date of publication of the international search report:

24 November 2005

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

BEST AVAILABLE COPY